

### **REMARKS**

This is in response to the Office Action mailed on July 22, 2005, and the references cited therewith.

Claims 1-29 are pending in this application.

#### **Claim Objections**

Claim 18 was objected to because of the following informalities: the term (for new bad actors) in line 1 should be removed.

#### **§102 Rejection of the Claims**

Claims 1, 6-8, 16 and 21 were rejected under 35 USC § 102(e) as being anticipated by Hsiung et al. (U.S. 6,853,920). The rejection is respectfully traversed.

The Office Action points to Col. 19, line 66 to Col. 20, line 25, and column 62, table 10 as teaching “finding a nearest cluster of bad actors related to the event to identify the event”. However, the language pointed to in Hsiung et al. describes “a main process for classifying each of the substances according to each or their characteristics...” Col. 19, lines 47-49. In other words, PCA does not appear to be applied to identifying events as claimed, but is used to identify substances. This is an entirely different application of PCA by Hsiung et al., and cannot serve to anticipate claim 1 or 16. Further, The models in Hsiung et al. also appear to be used to “attempt to simulate the behavior of the process being controlled, thereby allowing prediction of future behavior.” Col. 11 lines 18-20. This language indicates that Hsiung et al., is directed toward controlling and monitoring a process. There is no comparison in Hsiung et al. to clusters as claimed to identify an event. Since at least one element of the claims is missing from Hsiung et al., a proper prima facie case of anticipation has not been established, and the rejection should be withdrawn.

The Office Action also cites Col. 63, lines 59-62 of Hsiung et al, as describing the use of PCA to determine if events are occurring. However, lines 57 - 62 actually describe the use of PCA for performing “process control with a simple technique that focuses on the process state.” Such language does not describe the use of PCA to detect an event, or for “finding a nearest

cluster of bad actors related to an event to identify the event” as claimed. Instead, it appears to be directed to control of the process, not the identification of the event as claimed.

The Office Action also indicated that the term “bad actors” is not defined in the specification. Applicant submits that the term “bad actors” is described in the application at least in Paragraph [0003] as “The PCA model is trained on normal data, and then run on historical data that includes both normal data, and data that contains events. Bad actor data for the events is identified by excursions in Q (residual error) and T2 (unusual variance) statistics from the normal model, resulting in a temporal sequence of bad actor vectors. Clusters of bad actor patterns that resemble one another are formed and then associated with events.” Simply put, bad actors are data excursions from normal, and the term is believed to be well defined.

Claims 6-8 depend from claim 1 and are believed allowable for at least the same reasons. Claim 21 depends from claim 16, and is also believed allowable for at least the same reasons.

*Allowable Subject Matter*

Applicant thanks the Examiner for the indications of allowable subject matter.

Claims 2-5, 9-15, 17-20 and 22-28 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 29 has been allowed.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By their Representatives,

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Date 10/20/2005

By



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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20<sup>th</sup> day of October, 2005.



Name



Signature